ABSTRACT

In the design of an integrated circuit having a semiconductor substrate and metal interconnecting lines, including a core ring with metal power and ground lines that supply power to a core area inside the core ring, one or more metal-oxide-semiconductor capacitor units are laid out below the core ring. Each unit has an active area and an insulated gate electrode, which are connected by contacts to the core ring. These capacitor units protect transistors in the core area that have gate electrodes connected to the power or ground line from plasma damage during the fabrication of the integrated circuit. Additional capacitor units laid out below the core ring may be connected to a surrounding input-output ring to protect transistors in input-output circuits, and similar units may be connected to the core ring and input-output ring as protection transistors.